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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,907	10/23/2003	Ramin Rezaiifar	030135	8699
23696 7590 11/26/2007 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER SEFCHECK, GREGORY B	
			ART UNIT 2619	PAPER NUMBER
			NOTIFICATION DATE 11/26/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/692,907

Applicant(s)

REZAIIFAR ET AL.

Examiner

Gregory B. Sefcheck

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

- Applicant's Amendment filed 9/17/2007 is acknowledged.
- Claims 1, 7, 10, 11, 17, 20-23, 25-27, and 30-32 have been amended.
- The previous objections of claims 23, 25, and 26 have been withdrawn in light of the amendments.
- Claims 1-33 remain pending.

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 30 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear why a request to support communications with a packet network would be received by a second BSC in a **circuit-switched** network after the subscriber moves from a first region to a second region, since the subscriber is claimed as initially communicating with a first BSC in the circuit-switched network. Shouldn't the request be received by a BSC in the packet network if communication is to be supported in the packet network?

Claim 31 is rejected based on dependence from claim 30.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 7-9, 11-13, 17-19, 21-25, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Frid et al. (US006560239B1), hereafter Frid.

- Regarding Claims 1-3, 7-9, 11-13, 17-19, and 21-25,

Frid discloses a method and device in a wireless communication system  
(Abstract; claim 1 – method of wireless communications; claim 11,21 – wireless device).

Frid discloses a subscriber station MS 140 (Fig. 1) activates a call-waiting-type service, which serves to monitor for incoming calls from a circuit-switched network (first network associated with first air interface) while communication occurs over a packet-switched network interface (second network/interface; Fig. 3; Col. 2, lines 30-40; claim 1 – monitoring a first network in accordance with a first air interface; claim 2,9,12,24,25 – first network is circuit-switched, second network is packet-switched).

Referring to Fig. 3, Frid shows that a page is relayed to the MS through the packet switched network (and corresponding interface) when an incoming call intended for the MS is received from a circuit-switched network (claim 1 – receiving a message

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from a second network through the first air interface, the second network being associated with a second air interface different from the first air interface; claim 11,21 – analog circuit configured to recover information from a signal received with first air interface of first network; claim 11,21 – processor configured to detect a message from a second network associated with a second air interface different from first air interface; claim 7,17,22 – message comprises a page from the second network; claim 7,17,22 – communicating/recover information from second signal from the second network in response to the page in accordance with second air interface; claim 8,18,23 – receiving a message from the first network when communicating with second network, the message from the first network being sent through the second air interface; claim 9,19,24 – message from first network comprises a page).

Frid shows that the MS can accept the incoming call indicated by the received page and drop (terminate) the packet-switched communication but maintain the connection (dormant) by storing negotiated parameters of the PPP (or other protocol) link so that the packet-switched communication can resume after the accepted incoming circuit-switched call is completed over the circuit-switched network/interface (Col. 2-3, lines 60-8; claim 3,13 – maintaining a dormant connection with the second network while monitoring the first network; claim 9,19,24 – terminating communications with the second network in response to the page from first network and communicating with first network over first air interface).

Frid discloses that communication for a MS over packet and circuit-switched network can be accomplished simultaneously over two separate channels (interfaces)

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having separate frequencies (Col. 1-2, lines 67-5; claim 1,11,21 – first air interface format comprises a first carrier freq and the second air interface format comprises a second, different carrier freq).

- Regarding Claim 27,

Frid discloses a method and device in a wireless communication system in which a mobile station communicating over a packet-switched network interface may receive a notification of an incoming call from a circuit switched network through the packet-switched network interface (Fig. 3; claim 27 – transmitting a signal from a first network to subscriber station in accordance with first air interface; claim 27 – transmitting a message from a second network to subscriber through the first air interface, the second network associated with a second air interface different from first interface).

Frid discloses that communication for a MS over packet and circuit-switched network can be accomplished simultaneously over two separate channels (interfaces) having separate frequencies (Col. 1-2, lines 67-5; claim 27 – first air interface format comprises a first carrier freq and the second air interface format comprises a second, different carrier freq).

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5. Claims 30-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlsson et al. (US 20020145987A1), hereafter Carlsson.

- Regarding Claims 30 (as best understood) and 32,

Carlsson discloses a wireless network architecture providing mobile terminal MT 110/140 access to packet-switched and circuit-switched networks through respective access networks (Fig. 1).

Referring to Figs. 2 and 3, Carlson shows MT 110/140 communicating with the packet-switched 155 and circuit-switched 150 networks through a BS 115,120,145. Each BS includes a corresponding BSC that is not shown (Pg. 2, paragraph 23). Carlsson shows that calls and signaling to/from the MT, including circuit-switched signaling over a packet control channel or packet data service established through circuit-switched access, are tunneled between the respective access BS/BSC 115,120 when the MT is moving from one BS' cell (region) to the other (Pg. 2, paragraphs 26-27Pg. 4, paragraph 50; claim 30 – receiving a request by second BSC through first BSC to a subscriber in accordance with a first air interface while the subscriber moves from a first region to a second region; claim 30 – retrieving information by second BSC through the first interface to support communications with a packet-switched network associated with a second air interface different than the first interface after the subscriber moves into second region; claim 30 - sending identifier form the second BSC to the subscriber through first air interface; claim 32 – transmitting a signal from a packet switched network through a BSC to a subscriber in accordance with a first air interface while the

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subscriber moves from a first region to a second region; claim 32 - receiving from subscriber to the BSC a registration request through the first interface to support communications with a circuit-switched network associated with a second air interface different than the first interface after the subscriber moves into second region).

Carlsson discloses a serving MSC/VLR 205 and gateway MSC/VLR 210 for registering the location of the MT in HLR 215 and GPRS HLR 230 (Pg. 2, paragraph 26-27; claim 32 – registering the subscriber by the BSC with a MSC located in the second region).

- Regarding claims 31 (as best understood) and 33,

Carlsson discloses a wireless network architecture that meets all limitations of the parent claim.

Carlsson shows that a MT moving from BS 115 to 120 can receive circuit-switched service through the signaling tunnel (reflector) while the mobile is camped on a (dormant) packet channel (Pg. 2, paragraph 26; meets claim 31 – subscriber maintains a dormant connection with packet-switched network as it moves from first region to second region; claim 31 – information retrieved by second BSC from first BSC relates to maintaining dormant connection with packet-switched network through second BSC while subscriber is receiving signal from circuit-switched network in second region; claim 33 – signaling from BSC through a reflector to the MSC).



***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-6, 10, 14-16, 20, 26, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frid in view of Carlsson.

- Regarding Claims 4-6, 10, 14-16, 20, 26, and 28,

Frid discloses a method and device in a wireless communication system that meets all limitations of the parent claim.

Frid does not explicitly disclose monitoring a packet-switched network and messaging through circuit-switched network access networks and interfaces or staying registered with the circuit-switched network in consideration of a subscriber moving from one region to another.

Carlsson discloses a wireless network architecture providing mobile terminal MT 110/140 access to packet-switched and circuit-switched networks through respective access networks (Fig. 1). Carlsson discloses integrating air interfaces of a MT for both packet and circuit switched networks by enabling the MT to tunnel signaling between the access networks, such as circuit-switched protocol signaling over a packet control channel as well as establishing a packet data service based upon the MT's serving location for circuit-switched communication (Pg. 2, paragraph 26; Pg. 4, paragraph 50;

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claim 6,16,26 – first network is packet-switched, second network is circuit-switched;

claim 28 – transmission of message comprises routing from second network to a second access network to the access network).

Carlsson shows that the tunnel signaling between the BSC/HLR and MSC/VLR can be used to maintain registration and establish attachment to a packet data service based upon the cell (region) location migration of the MT (Fig. 6-8; Pg. 4, paragraph 50; claim 4,5,14,15 – second/first network comprises first and second regions; claim 4,5,14,15 – moving into the second region from the first region while monitoring second first/second network; claim 4,5,14,15 – sending a request for an identifier to an access network in the second region to support communications with the second network through the first/second interface; claim 10,20 – staying registered with the circuit-switched network upon moving from a first region to a second region).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and system of Frid by integrating network access for establishing communications with packet-switched and circuit-switched network through tunnel signaling between the BSC/HLR and MSC/VLR based upon the MT's changing cell location in the network, as shown by Carlsson. This would enable both packet and circuit switched communication to be simultaneously supported while providing the optimum service for the respective networks based on the location of the MT at a given time.

- Regarding Claim 29,

Frid discloses a method and device in a wireless communication system that meets all limitations of the parent claim.

Frid shows that the notification of incoming call from the circuit switched network to the MS through the packet switched network is a page (Fig. 3; claim 29 – message comprises a page from the second network). Frid shows that acceptance of the call following the page suspends the data communication to allow acceptance of the call through the circuit-switched network interface (Fig. 3; claim 29 – transmitting a second signal from the second network to the subscriber in accordance with second air interface following the page).

### ***Response to Arguments***

8. Applicant's arguments filed 9/17/2007 have been fully considered but they are not persuasive.

- In the Remarks on pg. 10-11 of the Amendment, Applicant contends that Frid does not disclose separate first and second air interfaces operating on first and second carrier frequencies, where the first and second carrier frequencies are different. Rather, Applicant alleges that Frid discloses a single air interface supporting different channels (packet-switched and circuit-switched). Applicant states that the channels in Frid are "presumably on the same carrier frequency" since they are connected through the same, single interface.

- The Examiner respectfully disagrees. As previously cited in the rejection of claims 10 and 20, and now included in the rejection of claims 1, 11, 21, and 27, Frid discloses "interface" connections to both a packet-switched and circuit-switched network that can be maintained simultaneously, where the interfaces operates on separate frequencies (Col. 1-2, lines 67-5). Though Frid acknowledges a goal of the disclosure is to enable quick and easy reestablishment of a packet data communication after interruption using standard cellular phones in conventional wireless networks, the cited disclosures from Frid would be equally applicable to the multi-interface, multi-frequency systems cited from Frid's description of prior art systems. Therefore, Frid meets the contested claim limitations and the rejections are proper.
- In the Remarks on pg. 12 of the Amendment, Applicant contends that Carlsson does not disclose receiving a request for an identifier to support communications with a packet-switched network associated with a second air interface, the request being transmitted through a first air interface. As in the previous argument regarding Frid, Applicant again presumes a single air interface is used by mobile terminal MT 110 in Fig. 2, while also alleging the entire cited description is for circuit-switched network 150.
- The Examiner respectfully disagrees. As shown in Fig. 2, MT 110 is shown to interface BS 115 and BS120 through separate connections (interfaces). Fig.

2 shows that BS 115 connects to the PSTN 160 through network 150, while BS 120 connects to PDN 165 through network 155. Therefore, Carlsson discloses first and second interfaces to two separate networks rather than the single interface presumed by Applicant, and the rejections are proper.

- In the Remarks on pg. 13-14 of the Amendment, Applicant contends that Carlsson does not describe retrieving information or receiving registration to support communications between the subscriber and the packet network from the circuit network base station, as claimed. Applicant also alleges that Carlsson does not describe requesting or sending an identifier.
- The Examiner respectfully disagrees. Carlsson's disclosure of tunneling signaling between BS 115 and 120 through HLR and VLR when the MT is moving from one region to the other meets the contested limitations, since the tunneled (retrieved/received) signaling "supports" communication initiated by the MT in the first region and continued while moving to the other region. The signaling in Carlsson also includes identifying information (known as "registration" with respect to HLR and VLR) about the MT involved in the communication, such that the calls of various MTs can be managed accordingly between various BSs. Therefore, the claim rejections are proper.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Wilborn et al. (US 20040090947A1)
- Pecen et al. (US 20020142753A1)

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

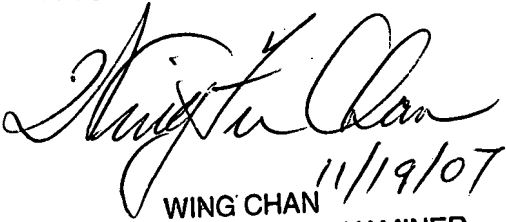
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory B. Sefcheck whose telephone number is 571-272-3098. The examiner can normally be reached on Monday-Friday, 8:00am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GBS  
11-16-2007

  
11/19/07  
WING CHAN  
SUPERVISORY PATENT EXAMINER